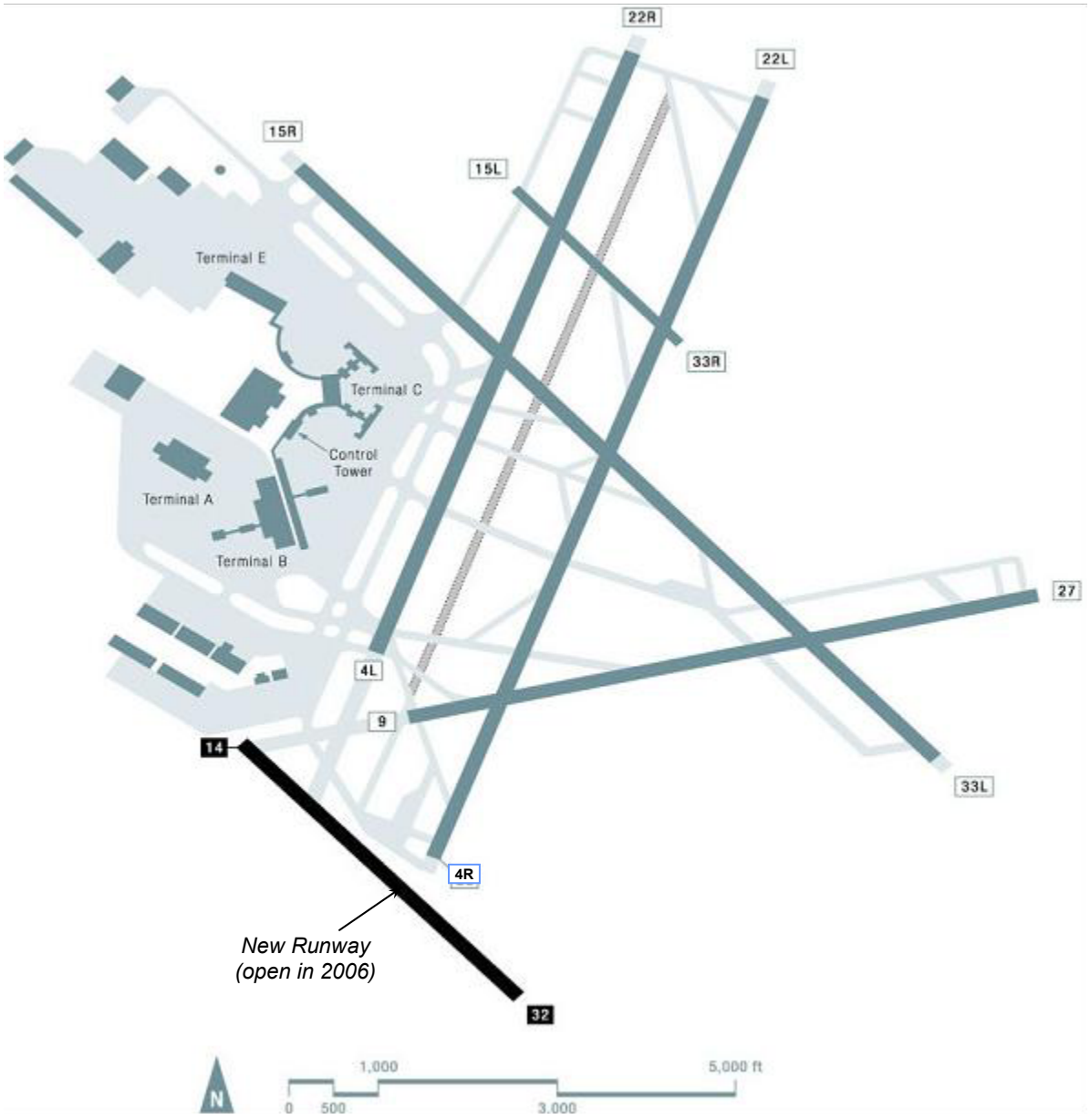
BOSTON – Boston Logan International (BOS)



Benchmark Results

- The capacity benchmark for Boston Logan International Airport today is 123-131 flights per hour (arrivals and departures) in Optimum weather, when visual approaches can be conducted.
- The benchmark falls to 112-117 flights per hour in Marginal conditions, and 90-93 flights per hour in IFR conditions, for the most commonly used runway configuration in these conditions. Throughput may be less when wind conditions force the use of other configurations, such as arrivals and departures on a single runway.
- Note that these benchmarks do not represent balanced operations. If the facility reported rates are significantly unbalanced (i.e., unequal numbers of arrivals and departures), the benchmark rates will be unbalanced as well. The facility reported rates reflect current operations at the airport during a busy hour, but such unbalanced rates cannot be sustained for extended periods.
- A new runway, planned for completion in 2006, will not affect the capacity benchmarks for BOS. Instead, this runway will help to mitigate delays during those weather conditions that force single runway operation today. This assumes that airspace, ground infrastructure, and environmental constraints allow the planned use of the new runway.
- Other planned technological improvements at BOS include CEFR and new wake vortex procedures for operations on the close parallel Runways 04R/L. These improvements would increase the benchmark rate by less than one percent in Optimum and IFR conditions, but by up to 11 percent in Marginal conditions. The benefit in Marginal conditions assumes that all arrivals can use CEFR to maintain visual separations.
- Although the benchmark rates increase only slightly, the planned improvements are expected to increase throughput during arrival peaks.
- In the following charts, please note that a number of hourly traffic points fall outside the calculated capacity curves at BOS, especially in IFR conditions. There are many possible reasons why this may occur without affecting operational safety, including operation on a different runway configuration than the one modeled. Efficient aircraft sequencing or above-average pilot and controller performance can also contribute to higher throughputs. Also, actual weather conditions during the hour may have been better than the hourly readings in the database, allowing more efficient ATC procedures than were modeled.

These values were calculated for the Capacity Benchmarking task and should not be used for other purposes, particularly if more detailed analyses have been performed for the airport or for the individual programs.

The list of Planned Improvements and their expected effects on capacity does not imply FAA commitment to or approval of any item on the list.

BOSTON – Boston Logan International Airport (BOS)

Weather	*Scenario*	*Configuration*	*Procedures*	*Benchmark Rate (per hour)*
Optimum Rate	**Today**	Arrivals on Runways 4L, 4R Departures on 9, 4L, 4R *Frequency of Use: 24% in Optimum conditions*	Visual approaches, visual separation	**123-131**
Ceiling and visibility above minima for visual approaches (2500 ft ceiling and 3 mi visibility)	**New Runway (2006)**	Same		**131**
Occurrence: 82%	**Planned improvements (2013), including new runway**	Same		**132**
Marginal Rate	**Today**	Arrivals on Runways 22L, 27 Departures on 22R, 22L *Frequency of Use: 21% in Marginal conditions*	Instrument approaches, visual separation	**112-117**
Below visual approach minima but better than instrument conditions	**New Runway (2006)**	Same		**117**
Occurrence: 7%	**Planned improvements (2013), including new runway**	Same	Visual approaches, visual separation	**130**
IFR Rate	**Today**	Arrivals on Runways 4R Departures on 9, 4L, 4R *Frequency of Use: 45% in IFR conditions*	Instrument approaches, radar separation	**90-93**
Instrument conditions (ceiling < 1000 ft or visibility < 3.0 miles)	**New Runway (2006)**	Same		**90**
Occurrence: 11%	**Planned improvements (2013), including new runway**	Same		**90**

NOTE: Data on frequency of occurrence of weather and runway configuration usage is based on FAA ASPM data for January 2000 to July 2002 (excluding 11-14 September 2001), 7 AM to 10 PM local time.

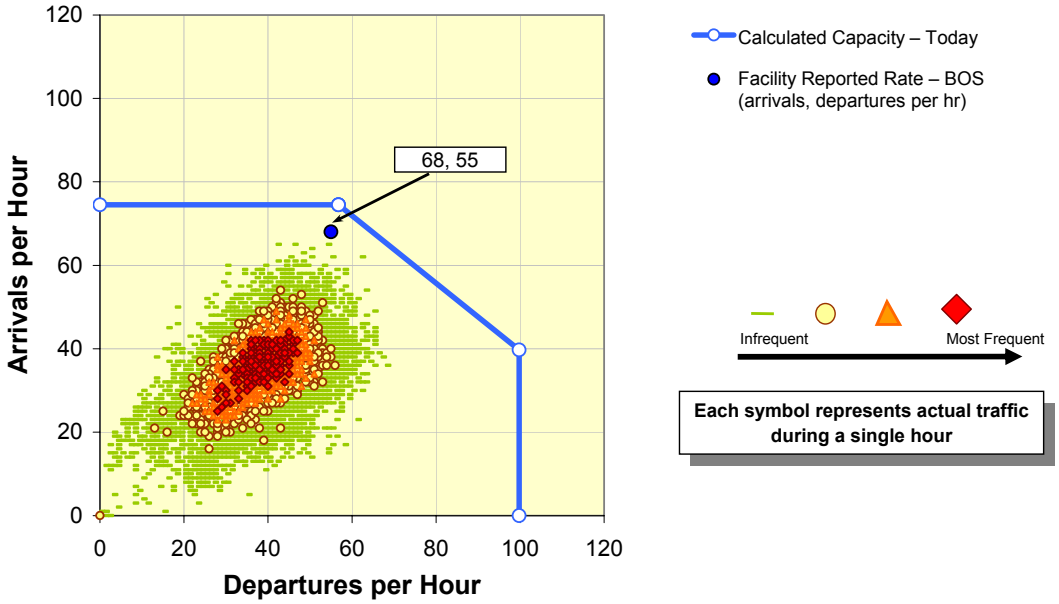
Planned Improvements at BOS include:

- CEFR, for reduced in-trail separations between arrivals in Marginal conditions.
- Revised wake vortex procedures, to increase arrival throughput on closely spaced parallel runways.

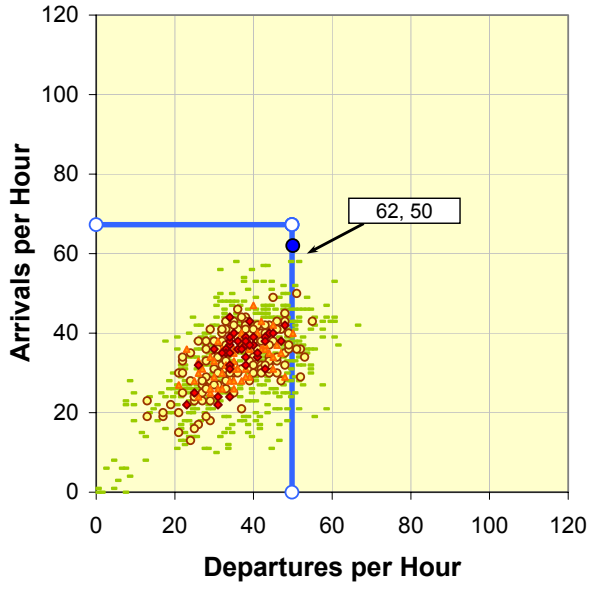
Additional information on these improvements may be found in the Introduction and Overview of this report, under “Assumptions.”

Calculated Capacity (Today) and Actual Throughput

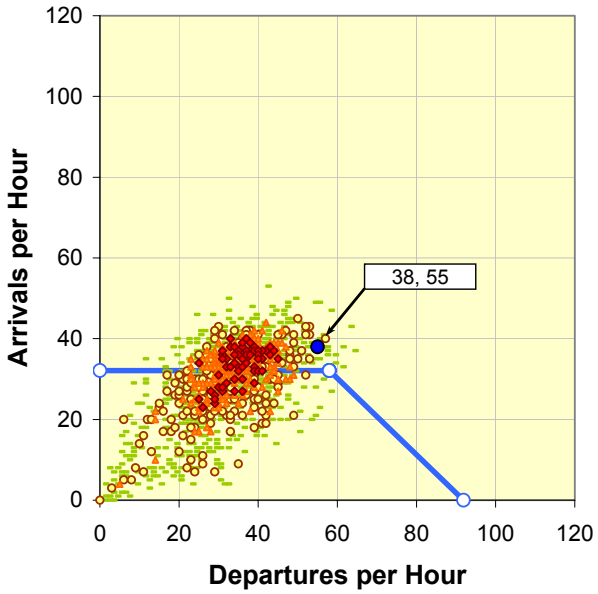
Optimum Rate



Marginal Rate



IFR Rate



Hourly traffic data was obtained from the FAA ASPM database for January 2000 to July 2002 (excluding 11-14 September 2001), 7 AM to 10 PM local time. Facility reported rates were provided by ATC personnel at BOS.